

Cottonwood Borer

Striking black and white longhorned beetle

Name and Description—*Plectrodera scalator* (Fabricius) [Coleoptera: Cerambycidae]

The cottonwood borer is a common wood borer of cottonwood and poplars and infests the bases and roots of living trees. The insect is widely distributed throughout the eastern United States and the Midwest; however, it is most common in the Great Plains from Texas to South Dakota and throughout the Mississippi River Valley. Within Colorado, the cottonwood borer is restricted to the southeastern portion of the state. The adult is an elongate, robust, strikingly patterned beetle that is approximately 1-1 3/4 inches (2.5-4.4 cm) long and 1/2 inch (13 mm) wide (fig. 1). Mature larvae are approximately 2 inches (50 mm) long (fig. 2), and the pupa is approximately 1 1/2 inches (3.8 cm) long (fig. 3).



Figure 1. Cottonwood borer adult. Photo: Charles T. Bryson, USDA Agricultural Research Service.

Hosts—Host trees include cottonwood, poplars, and, occasionally, willows. Eastern cottonwood is the preferred host tree throughout its range.

Life Cycle—Adults emerge in late June through mid-August in Kansas. Adults live about one month and feed on leaf petioles, new twig growth, and tender bark. Adult feeding may cause shoots to break or shrivel and die. Females dig shallow pits in the soil at the root collar and then shred the bark with their jaws to make an oviposition site. The female deposits a single egg at each site and then partially fills the soil pits. The young larvae mine downward in the inner bark and soon begin to etch the wood of the root. Galleries extend downward into the taproot of 1- and 2-year-old seedlings. In larger trees, larvae usually do not penetrate the wood deeper than 1 inch (2.5 cm) and often hollow out areas of 2-3 inches (5-7.5 cm) in diameter, particularly in large roots. The larva may take 1 or 2 years to complete development. The larvae pupate from April through early July.



Figure 2. Cottonwood borer larva. Photo: James Solomon, USDA Forest Service, Bugwood.org.



Figure 3. Cottonwood borer pupa. Photo: James Solomon, USDA Forest Service, Bugwood.org.

Damage—The cottonwood borer attacks trees of all sizes. Cottonwood borers may infest nursery stock, causing young trees to die and shrivel, or, if they survive, the young trees often break at the root collar when handled. Injury to older trees is hard to detect unless the soil is removed to expose the root collar and the upper roots. The larvae bore into the heartwood of infested trees. In plantations, infested trees are often riddled with larvae, but they seldom die from the injury. Severely infested trees may break at the base during periods of high wind.

Management—Natural and planted cottonwood stands on poor sites such as sand flats and heavy clays are more heavily infested than stands on good sites. Also, shelterbelt plantings on the Great Plains have been severely damaged by the cottonwood borer. The cottonwood borer has few natural parasites and predators because most of its life cycle is spent in the tree below ground-level. Extended flooding in lowlands often kills many larvae.

1. Solomon, J.D. 1995. Guide to insect borers in North American broadleaf trees and shrubs. Agricultural Handbook 706. Washington, DC: U.S. Department of Agriculture, Forest Service. 747 p. Online: <http://www.forestpests.org/borers>.